

SAFE EATING GUIDELINES for fish from Folsom Lake and Lake Natoma

Why has OEHHA developed “Safe Eating Guidelines” for fish from Folsom Lake and Lake Natoma?

Studies of mercury levels in fish from Folsom Lake and Lake Natoma have shown that many fish from this area contain mercury at levels that call for recommendations or “safe eating guidelines” to protect health. A few fish species, including bluegill, green or other sunfish, and trout 16 inches or less in length, contained very low mercury levels and can be eaten frequently as part of a healthy diet. These findings are the result of studies conducted by the U.S. Geological Survey, U.S. Bureau of Reclamation and University of California, Davis. The data from these studies support the fish consumption recommendations in this fact sheet. A prior state fish consumption advisory issued for Lake Natoma in 2004 is being replaced by this current advisory.

The Office of Environmental Health Hazard Assessment (OEHHA) is responsible for providing fish consumption guidelines for sport fish in California. OEHHA used the studies above to evaluate the health effects of eating fish from this area.

“Safe eating guidelines” provide information to fish consumers to help them choose the safest fish to eat. The guidelines also recommend how often these fish can be eaten for the greatest health benefits and minimum risk to health. OEHHA recommends that you choose *low-mercury* fish to eat, and *avoid* eating fish that are *high* in mercury. One set of safe eating guidelines applies to women ages 18-45 and children ages 1-17, to protect fetuses and children whose developing brains are particularly sensitive to methylmercury (the most prevalent form of mercury in fish). A second set of guidelines applies to women over 45 years and men, who are generally less sensitive to methylmercury.

Why are mercury levels higher in some fish than in others?

Some of the major sources of mercury in the environment are volcanoes and coal-burning power plants, which discharge mercury into the air. Mercury in air can be carried worldwide before being deposited into oceans, lakes, and other water bodies. Runoff from old mercury mines or gold mining regions (where mercury was used in the gold recovery process) also releases mercury into waterways. Mercury accumulates in the bottom sediments of water bodies, where bacteria change mercury into a more toxic form known as “methylmercury” that fish take in from their diet. Methylmercury can build up in fish to levels that are many thousands of times greater than mercury levels in the surrounding water.

Fish from some areas that are more contaminated with mercury may have higher mercury levels than fish from other locations. Also, fish that mostly eat other fish, such as bass, tend to have the highest mercury levels. In Folsom Lake and Lake Natoma, for example, black bass (including largemouth, smallmouth, and spotted bass) and catfish were found to have higher levels of mercury than other fish species. Ocean and river-run salmon, which usually do not eat once they enter the river, typically contain low levels of mercury. However, land-locked Chinook (King) salmon, such as those found in Folsom Lake, eat other fish and therefore have mercury levels similar to bass. Smaller trout, which feed on insects and other small aquatic organisms, had lower mercury levels, while older, bigger trout, contained much higher levels of mercury. Larger, older fish of a species usually accumulate higher levels of mercury than smaller fish from the same species and water body. For this reason, it is better to eat smaller fish of a species, provided they are legal size.

Why should fish be eaten if they might contain mercury or other chemical contaminants?

Fish are a nutritious source of protein and heart-healthy “omega-3” fatty acids. That is why the American Heart Association recommends that healthy adults eat at least two 3-ounce cooked servings of fish each week. Eating fish may also prevent other diseases and improve how the brain develops in the fetus and children. To benefit most from fish consumption and avoid health risks from contaminated fish, it is important to eat fish that are low in contaminants and high in the unique “omega-3” fatty acids found in fish. The safe eating guidelines also show which fish have high levels of “omega-3s” that have been shown to benefit the heart, brain, and eyes.

“Omega-3s” are beneficial nutrients found in fish that are good for the heart, and also support brain development.

What are the human health effects from eating fish with methylmercury?

Methylmercury can affect your health if you are exposed to excessive amounts over time. Developing fetuses and children are especially sensitive to methylmercury while the brain is growing. Pregnant women can pass methylmercury to their babies through the placenta. Too much methylmercury can affect the nervous system in children, leading to subtle decreases in learning ability, language skills, attention, or memory. These effects may occur through adolescence as the nervous system continues to develop. For these reasons, a more conservative set of fish consumption guidelines applies to women ages 18-45 and children 1-17 years.

Women ages 18-45 years, including pregnant and breastfeeding women, and children ages 1-17 should carefully follow guidelines for eating fish.

Do commercial fish available from stores and in restaurants contain methylmercury?

Most ocean and freshwater fish contain some level of mercury, so consider your total fish consumption when making choices about how much and which types of fish to eat. The federal government advises women of childbearing age (ages 18 to 45) and children not to eat shark, swordfish, king mackerel, or tilefish, because these ocean species tend to have very high mercury levels. They also say that women of childbearing age and children can safely eat up to two average servings (12 ounces cooked fish a week) of a variety of other commercial fish. Low-mercury fish from stores or restaurants that are high in “omega-3s” are salmon, trout, herring, and sardines. Women ages 18-45 and children should not eat fish bought in a store or restaurant in the same week that they eat fish caught by family and friends, unless they choose very low-mercury fish.

What about fish caught from other nearby locations?

Safe eating guidelines have also been issued for numerous other water bodies in northern California, including the San Joaquin River and Southern Delta, Sacramento River and Northern Delta, the lower Cosumnes, lower Mokelumne, lower Feather, and lower American rivers, and several lakes in the Sierra foothills. You can use OEHHHA’s contact information and website provided in this fact sheet to get more information.

Where can I get more information?

For information on mercury and other contaminants in sport fish in California, or to submit any comments on this health advisory, contact:

Office of Environmental Health Hazard Assessment (OEHHHA)
Pesticide and Environmental Toxicology Branch
P.O. Box 4010

Sacramento, California 95812-4010

Phone: (916) 323-9667

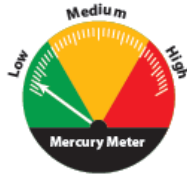
Fax: (916) 327-7320

Or visit the OEHHHA Web site at: <http://www.oehha.ca.gov> (Click on “Fish”)

Guide to Eating Fish Caught in **Folsom Lake** and **Lake Natoma**



A guide to eating fish caught in Folsom Lake and Lake Natoma Women 18 - 45, especially those who are pregnant or breastfeeding, and children 1 - 17



Trout ♡
16 inches long or less

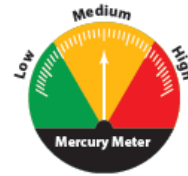


Bluegill

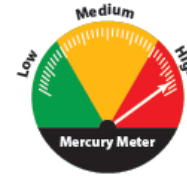


Green Sunfish and
Other Sunfish

♡ = High in Omega-3s



There are no fish with
medium levels of mercury



Largemouth, Smallmouth, and
Spotted Bass



Chinook (King) Salmon



Catfish



Trout
over 16 inches long

Safe to eat
2 servings per week

Do not eat

Men over 17 and women over 45 can safely eat more fish

- Safe to eat 5 servings per week
- There are no fish with medium levels of mercury
- Safe to eat 1 serving per week except catfish from Lake Natoma — DO NOT EAT

♡ Why eat fish?

Eating fish is good for your health. Fish have Omega-3s that can reduce your risk for heart disease and improve how the brain develops in unborn babies and children.

What is the concern?

Some fish have high levels of mercury that can negatively affect how the brain develops in unborn babies and children.

What is a serving?



For Adults For Children

The recommended serving of fish is about the size and thickness of your hand. Give children smaller servings.

Fish buying guidelines for women 18 - 45 and children 1 - 17

Do not eat fish caught by family and friends in the same week that you eat fish bought in a store or restaurant. For fish that you buy:

- Safe to eat 2 servings per week of low mercury fish such as salmon ♡, pollock ♡, catfish, tilapia, shrimp, anchovies ♡, sardines ♡, trout ♡, and canned chunk-light tuna



OR

- Safe to eat 1 serving per week of medium-mercury fish such as canned albacore (white) tuna ♡
- Do not eat shark, swordfish, tilefish, or king mackerel



California Office of Environmental
Health Hazard Assessment
www.oehha.ca.gov/fish.html
(916) 327-7319 or (510) 622-3170